CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

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JAS-ANZ BSCIC ISO 9001 REGISTERED

Job No.: CTCE/BBMP/KRIDL/W.No.08/CSR-1005b/CEMENT/2019-20 Date: 10.07.2019

TEST REPORT ON CEMENT

* Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	:	**Executive Engineer,** KRIDL, Bangalore.
* Name of Work	:	Improvements of road and drains in Devinagara Balaji Layout Bhadrappa Layout and surrounding areas in Ward No.08, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	Cement
Sample Received on	:	08.07.2019
Period of Testing	:	08.07.2019 to 10.07.2019

The results of the tests conducted on the cement sample are as follows:

Sl. No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4) 1988 (RA-2014)	28.00 %	-
2	a) Initial Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	135 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5) 1988 (RA-2014)	380 Minutes	Not More than 600 Minutes
3	Soundness by Le Chartlier Method	IS-4031 (Part-3) 1988 (RA-2014)	1 mm	Not more than 10mm

*Information is furnished by the Customer/Representative.

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Job No.: CTCE/BBMP/KRIDL/W.No.08/CSR-1005b/SAND-Gradation/2019-20 10.07.2019

TEST REPORT ON SIEVE ANALYSIS OF FINE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	:	**Executive Engineer,** KRIDL, Bangalore.
* Name of Work	:	Improvements of road and drains in Devinagara Balaji Layout Bhadrappa Layout and surrounding areas in Ward No.08, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	Fine Aggregates (Manufactured Sand)
Technical Reference	:	IS : 2386 (Part 1) - 1963 (RA-2007)
Sample Received On	:	08.07.2019
Date of Testing	:	10.07.2019

Total Wt. of Aggregates in gms = **1000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2007)			
		Zone-I	Zone-II	Zone-III	Zone-IV
10	100	100	100	100	100
4.75	98.00	90-100	90-100	90-100	95-100
2.36	80.00	60-95	75-100	85-100	95-100
1.18	63.80	30-70	55-90	75-100	90-100
600 Micron	42.00	15-34	35-59	60-79	80-100
300 Micron	12.40	5-20	8-30	12-40	15-50
150 Micron	4.20	0-10	0-10	0-10	0-15

* Information is furnished by the Customer/Representative

Remarks : This sample is under Zone-II specific limits.

Note 1 :

For crushed stone sands, the permissible limit on 150-micron IS Sieve is increased to 20 percent. This does not affect the 5 percent allowance permitted in 4.3 of IS 383 applying to other sieve sizes.

Note 2 :

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Job No.: CTCE/BBMP/KRIDL/W.No.08/CSR-1005b/AGG/GR/2019-20 10.07.2019

TEST REPORT ON SIEVE ANALYSIS OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	:	**Executive Engineer,** KRIDL, Bangalore.
* Name of Work	:	Improvements of road and drains in Devinagara Balaji Layout Bhadrappa Layout and surrounding areas in Ward No.08, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	Coarse Aggregates (40mm)
Technical Reference	:	IS : 2386 (Part 1) -1963 (RA-2011)
Sample Received on	:	08.07.2019
Date of Testing	:	10.07.2019

Total Wt. of Aggregates in gms= **5000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA- 2011)	
		Graded	Single Sized
80	100	100	-
63	100	-	100
40	97.34	95-100	85-100
20	38.94	30-70	0-20
10	12.90	10-35	0-5
4.75	2.40	0-5	-

* Information is furnished by the Customer/Representative

Remarks : This sample is under graded specific limits.

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TEST REPORT ON SIEVE ANALYSIS OF COARSE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	:	**Executive Engineer,** KRIDL, Bangalore.
* Name of Work	:	Improvements of road and drains in Devinagara Balaji Layout Bhadrappa Layout and surrounding areas in Ward No.08, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	Coarse Aggregates (20mm)
Technical Reference	:	IS : 2386 (Part 1) -1963(RA-2011)
Sample Received on	:	08.07.2019
Date of Testing	:	10.07.2019

Total Wt. of Aggregates in gms= **5000**

IS Sieve Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS :383-1970 (RA- 2011)	
		Graded	Single Sized
40	100	100	100
20	97.40	95-100	85-100
10	41.10	25-55	0-20
4.75	7.40	0-10	0-5

* Information is furnished by the Customer/Representative

Remarks : This sample is under Graded specific limits

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Job No.: CTCE/BBMP/KRIDL/W.No.08/Steel/2019-20 11.07.2019

TEST REPORT ON REINFORCEMENT STEEL

* Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	:	**Executive Engineer,** KRIDL, Bangalore.
* Name of work	:	Improvements of road and drains in Devinagara Balaji Layout Bhadrappa Layout and surrounding areas in Ward No.08, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Samples ID	:	8mm Bar
Technical Reference	:	IS: 1786-2008 (RA-2013)
Date of Testing	:	11.07.2019

Sl No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm2	Tensile strength (Ultimate stress) N/mm2	Elongation percent gauge length		
1	8	0.39	513	554	13.1	O.K	O.K

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Job No.: CTCE/BBMP/KRIDL/W.No.08/Steel/2019-20 11.07.2019

TEST REPORT ON REINFORCEMENT STEEL

* Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	:	**Executive Engineer,** KRIDL, Bangalore.
* Name of work	:	Improvements of road and drains in Devinagara Balaji Layout Bhadrappa Layout and surrounding areas in Ward No.08, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Samples ID	:	10mm Bar
Technical Reference	:	IS: 1786-2008 (RA-2013)
Date of Testing	:	11.07.2019

Sl No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm2	Tensile strength (Ultimate stress) N/mm2	Elongation percent gauge length		
1	10	0.62	518	559	13.3	O.K	O.K

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Job No.: CTCE/BBMP/KRIDL/W.No.08/CSR-1005b/Cube/2019-20 10.08.2019

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	:	**Executive Engineer,** KRIDL, Bangalore.
* Name of the work	:	Improvements of road and drains in Devinagara Balaji Layout Bhadrappa Layout and surrounding areas in Ward No.08, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	RCC Drain Bottom Slab Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	10.08.2019

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	13.07.2019	10.08.2019	8.165	493.5	21.93
2	13.07.2019	10.08.2019	8.328	516.9	22.97
3	13.07.2019	10.08.2019	8.456	523.8	23.28

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* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	RCC Drain Bottom Slab Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	10.08.2019

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	13.07.2019	10.08.2019	8.110	480.5	21.36
2	13.07.2019	10.08.2019	8.280	511.3	22.72
3	13.07.2019	10.08.2019	8.396	522.9	23.24

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
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* Sample ID	:	RCC Drain Bottom Slab Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	10.08.2019

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	13.07.2019	10.08.2019	8.157	510.3	22.68
2	13.07.2019	10.08.2019	8.240	523.6	23.27
3	13.07.2019	10.08.2019	8.380	532.9	23.68

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Job No.: CTCE/BBMP/KRIDL/W.No.08/CSR-1005b/Cube/2019-20 12.08.2019

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	:	**Executive Engineer,** KRIDL, Bangalore.
* Name of the work	:	Improvements of road and drains in Devinagara Balaji Layout Bhadrappa Layout and surrounding areas in Ward No.08, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	RCC Drain Side Wall Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	12.08.2019

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	15.07.2019	12.08.2019	8.392	498.6	22.16
2	15.07.2019	12.08.2019	8.445	513.8	22.84
3	15.07.2019	12.08.2019	8.292	524.6	23.32

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
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* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	RCC Drain Side Wall Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	12.08.2019

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	15.07.2019	12.08.2019	8.115	480.6	21.36
2	15.07.2019	12.08.2019	8.210	493.8	21.95
3	15.07.2019	12.08.2019	8.396	513.2	22.81

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Job No.: CTCE/BBMP/KRIDL/W.No.08/CSR-1005b/Cube/2019-20 12.08.2019

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	:	**Executive Engineer,** KRIDL, Bangalore.
* Name of the work	:	Improvements of road and drains in Devinagara Balaji Layout Bhadrappa Layout and surrounding areas in Ward No.08, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	RCC Drain Side Wall Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	12.08.2019

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	15.07.2019	12.08.2019	8.195	510.8	22.70
2	15.07.2019	12.08.2019	8.210	524.6	23.32
3	15.07.2019	12.08.2019	8.392	532.5	23.67

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Job No.: CTCE/BBMP/KRIDL/W.No.08/CSR-1005b/Cube/2019-20 14.08.2019

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	:	**Executive Engineer,** KRIDL, Bangalore.
* Name of the work	:	Improvements of road and drains in Devinagara Balaji Layout Bhadrappa Layout and surrounding areas in Ward No.08, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	RCC Drain Side Wall Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	14.08.2019

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	17.07.2019	14.08.2019	8.159	480.5	21.36
2	17.07.2019	14.08.2019	8.280	499.5	22.20
3	17.07.2019	14.08.2019	8.390	512.3	22.77

*Information is furnished by the Customer/Representative.

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****

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Job No.: CTCE/BBMP/KRIDL/W.No.08/CSR-1005b/Cube/2019-20 14.08.2019

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	:	**Executive Engineer,** KRIDL, Bangalore.
* Name of the work	:	Improvements of road and drains in Devinagara Balaji Layout Bhadrappa Layout and surrounding areas in Ward No.08, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	RCC Drain Side Wall Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	14.08.2019

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	17.07.2019	14.08.2019	8.120	498.8	22.17
2	17.07.2019	14.08.2019	8.280	513.2	22.81
3	17.07.2019	14.08.2019	8.336	521.6	23.18

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Job No.: CTCE/BBMP/KRIDL/W.No.08/CSR-1005b/Cube/2019-20 14.08.2019

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	:	**Executive Engineer,** KRIDL, Bangalore.
* Name of the work	:	Improvements of road and drains in Devinagara Balaji Layout Bhadrappa Layout and surrounding areas in Ward No.08, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	RCC Drain Side Wall Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	14.08.2019

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	17.07.2019	14.08.2019	8.162	482.2	21.43
2	17.07.2019	14.08.2019	8.211	495.6	22.03
3	17.07.2019	14.08.2019	8.302	505.8	22.48

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Job No: CTCE/BBMP/KRIDL/W.No.08/CSR-1005b/Kerb Stone/2019-20 17.07.2019

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CORE

* Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	:	**Executive Engineer,** KRIDL, Bangalore.
* Name of work	:	Improvements of road and drains in Devinagara Balaji Layout Bhadrappa Layout and surrounding areas in Ward No.08, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	Kerb Stone
* Grade of Concrete	:	M_{15}
Techinical Reference	:	IS:516-1959 (RA- 2013), SP-24:1983.
Sample Received on	:	15.07.2019
Date of Testing	:	17.07.2019

Sl. No	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	82.00	0.405	2515.42	1.64	0.961	26.50	13.50	14.58	15.17	18.96
2	50.00	84.00	0.420	2546.48	1.68	0.965	27.85	14.18	15.32	14.79	18.49
3	50.00	83.00	0.409	2509.66	1.66	0.963	26.35	13.42	14.49	13.96	17.45

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Job No.: CTCE/BBMP/KRIDL/W.No.08/CSR-1005b/Precast slab/2019-20 17.07.2019

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CORE

* Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	:	**Executive Engineer,** KRIDL, Bangalore.
* Name of work	:	Improvements of road and drains in Devinagara Balaji Layout Bhadrappa Layout and surrounding areas in Ward No.08, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	Precast slab (100mm thick)
* Grade of Concrete	:	M_{20}
Techinical Reference	:	IS:516-1959 (RA- 2013), SP-24:1983.
Sample Received on	:	15.07.2019
Date of Testing	:	17.07.2019

Sl. No	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	78.00	0.392	2559.54	1.56	0.952	30.20	15.38	16.61	17.44	21.80
2	50.00	80.00	0.405	2578.31	1.60	0.957	32.60	16.60	17.93	17.16	21.45
3	50.00	81.00	0.403	2533.90	1.62	0.959	33.90	17.27	18.65	17.88	22.35

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Job No.: CTCE/BBMP/KRIDL/W.No.08/CSR-1005b/SAND-Gradation/2019-20 17.07.2019

TEST REPORT ON SIEVE ANALYSIS OF FINE AGGREGATES

* Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	:	**Executive Engineer,** KRIDL, Bangalore.
* Name of Work	:	Improvements of road and drains in Devinagara Balaji Layout Bhadrappa Layout and surrounding areas in Ward No.08, BBMP, Bangalore.
*Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
*Sample ID	:	Fine Aggregates (Sand Pointing)
Technical Reference	:	IS : 1542 - 1992 (RA-2014)
Sample Received on	:	15.07.2019
Date of Testing	:	17.07.2019

Total Wt. of Aggregates in gms **1000**

Is Sieved Size in mm	Cumulative Weight Passing in %	Specific Limits as per IS : 1542 - 1992 (RA-2014) Clause 5.1
10	100	100
4.75	99.10	95-100
2.36	98.00	95-100
1.18	96.50	90-100
600 Micron	92.70	80-100
300 Micron	36.70	20-65
150 Micron	13.20	0-15

* Information is furnished by the Customer/Representative

Remarks : This tested sample satisfies requirement.

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	:	**Executive Engineer,** KRIDL, Bangalore.
* Name of the work	:	Improvements of road and drains in Devinagara Balaji Layout Bhadrappa Layout and surrounding areas in Ward No.08, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	Road Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	20.08.2019

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	23.07.2019	20.08.2019	8.157	474.5	21.09
2	23.07.2019	20.08.2019	8.206	482.6	21.45
3	23.07.2019	20.08.2019	8.308	511.9	22.75

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* Sample ID	:	Road Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	20.08.2019

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	23.07.2019	20.08.2019	8.289	493.5	21.93
2	23.07.2019	20.08.2019	8.346	512.2	22.76
3	23.07.2019	20.08.2019	8.402	522.6	23.23

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* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	Road Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	20.08.2019

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	23.07.2019	20.08.2019	8.378	510.3	22.68
2	23.07.2019	20.08.2019	8.456	523.2	23.25
3	23.07.2019	20.08.2019	8.226	512.9	22.80

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* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	Road Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	20.08.2019

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	23.07.2019	20.08.2019	8.180	495.8	22.04
2	23.07.2019	20.08.2019	8.220	519.7	23.10
3	23.07.2019	20.08.2019	8.369	482.3	21.44

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* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	Road Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	20.08.2019

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	23.07.2019	20.08.2019	8.277	495.8	22.04
2	23.07.2019	20.08.2019	8.326	518.7	23.05
3	23.07.2019	20.08.2019	8.456	526.8	23.41

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Job No.: CTCE/BBMP/KRIDL/W.No.08/CSR-1005b/Cube/2019-20 21.08.2019

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

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* Agency	:	**Executive Engineer,** KRIDL, Bangalore.
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* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	Road Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	21.08.2019

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	24.07.2019	21.08.2019	8.280	482.2	21.43
2	24.07.2019	21.08.2019	8.339	492.5	21.89
3	24.07.2019	21.08.2019	8.446	510.6	22.69

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Job No.: CTCE/BBMP/KRIDL/W.No.08/CSR-1005b/Cube/2019-20 21.08.2019

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

* Customer	:	**Asst. Executive Engineer,** Kodigehalli Sub Division, BBMP, Bangalore.
* Agency	:	**Executive Engineer,** KRIDL, Bangalore.
* Name of the work	:	Improvements of road and drains in Devinagara Balaji Layout Bhadrappa Layout and surrounding areas in Ward No.08, BBMP, Bangalore.
* Reference	:	BBMP/EE/BTP/WO/42/2019-20 Dated: 08.07.2019
* Sample ID	:	Road Concrete
Technical Reference	:	IS: 516-1959 (RA-2013)
Size of cubes	:	150mmx150mmx150mm
Cross Sectional Area	:	22500 mm^2
* Grade of Concrete	:	M_{20}
Compressive Strength as on	:	28^{th} day
Sample Received on	:	21.08.2019

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	24.07.2019	21.08.2019	8.105	478.5	21.27
2	24.07.2019	21.08.2019	8.203	482.6	21.45
3	24.07.2019	21.08.2019	8.320	505.8	22.48

*Information is furnished by the Customer/Representative.

Civil-Tech Consultants & Engineers Bangalore

Note:

⇒The report shall not be reproduced, except in full, without the written approval of the laboratory.

⇒The results indicated above are based on the tests carried out on the samples received in the laboratory.

⇒Any Query regarding the report must be reported within 30 days from the date of testing.

****

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CIVIL-TECH CONSULTANTS AND ENGINEERS

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Sample Received on	:	21.08.2019

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	24.07.2019	21.08.2019	8.339	498.6	22.16
2	24.07.2019	21.08.2019	8.456	516.4	22.95
3	24.07.2019	21.08.2019	8.225	536.6	23.85

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Compressive Strength as on	:	28^{th} day
Sample Received on	:	21.08.2019

Sl.No.	* Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	24.07.2019	21.08.2019	8.160	515.5	22.91
2	24.07.2019	21.08.2019	8.290	524.6	23.32
3	24.07.2019	21.08.2019	8.305	532.9	23.68

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